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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,658	01/13/2006	Hans-Helmut Bechtel	DE0300247	9677

24737 7590 04/30/2007
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

SUCH, MATTHEW W

ART UNIT	PAPER NUMBER
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2891

MAIL DATE	DELIVERY MODE
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04/30/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/564,658	Applicant(s) BECHTEL ET AL.	
	Examiner Matthew W. Such	Art Unit 2891	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Riess ('355).
 - a. Regarding claim 1, Riess teaches an electroluminescent device having a substrate (Element 130), a metallic structure (Element 131.1), and a layer assembly with a first electrode (Element 131), an electroluminescent layer (Element 132), and a second electrode (Element 133). The metallic structure is in electrical contact with the first electrode (Fig. 16). The resistance of the metallic structure is lower than the layer resistance of the first electrode since the metal layer is aluminum and the first electrode is a wide bandgap semiconductor material. Riess further teaches that the metallic structure covers up to 10% of the surface of an upper surface of the substrate (Fig. 16). The Examiner notes that the manner in which the claim is written does not limit which surface of the substrate is an "upper" surface since it is not defined in relationship to anything. For example, any surface can be an upper surface simply by arbitrarily rotating the surface or by arbitrarily defining the direction comprising "upper". Therefore, the upper

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surface of the substrate can be a surface with no metal structure formed thereon, and hence this upper surface is less than 10% (or “up to 10%”) covered since it is 0% covered.

b. Regarding claim 2, Riess further teaches that the metallic structure is incorporated into the substrate (Fig. 16) since the substrate is formed around the metallic structure. The manner in which the claim is written does not limit the structural relationship between the metallic structure and substrate since they need only to be “incorporated into” each other.

c. Regarding claim 3, Riess further teaches that the layer thickness of the metallic structure is greater than the layer thickness of the first electrode (Fig. 16).

d. Regarding claim 5, Riess further teaches that the metallic structure has a striped pattern as shown in Figure 16.

3. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Namiki ('936).

a. Regarding claim 1, Namiki teaches an electroluminescent device having a substrate (Element 6), a metallic structure (Element 7, 7a), and a layer assembly with a first electrode (Element 2), an electroluminescent layer (Element 3, 4), and a second electrode (Element 5). The metallic structure is in electrical contact with the first

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electrode (Figures). The resistance of the metallic structure is lower than the layer resistance of the first electrode (see, for example, Col. 6, Lines 11-23). Namiki further teaches that the metallic structure covers up to 10% of the surface of an upper surface of the substrate (Fig. 16). The Examiner notes that the manner in which the claim is written does not limit which surface of the substrate is an "upper" surface since it is not defined in relationship to anything. For example, any surface can be an upper surface simply by arbitrarily rotating the surface or by arbitrarily defining the direction comprising "upper". Therefore, the upper surface of the substrate can be a surface with no metal structure formed thereon, and hence this upper surface is less than 10% (or "up to 10%") covered since it is 0% covered.

b. Regarding claim 2, Namiki further teaches that the metallic structure is incorporated into the substrate, since it has a structural relationship with the substrate. The manner in which the claim is written does not limit the structural relationship between the metallic structure and substrate since they need only to be "incorporated into" each other.

c. Regarding claim 3, Namiki further teaches that the layer thickness of the metallic structure is greater in thickness than the first electrode (see, for example, Figs. 6B and 6D).

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- d. Regarding claim 5, Namiki further teaches that the metallic structure can be strips (see, for example, Figs. 4 and 13).
6. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Feldman ('391).
- a. Regarding claim 1, Feldman teaches an electroluminescent device having a substrate (Element 1), a metallic structure (Element 3, 4), and a layer assembly with a first electrode (Element 2), an electroluminescent layer, and a second electrode (Col. 1, Lines 15-22; Col. 3, Lines 33-36). The metallic structure is in electrical contact with the first electrode (Figures). The resistance of the metallic structure is lower than the layer resistance of the first electrode (Abstract, Col. 1, Lines 15-40; Col. 2, Lines 16-18; Col. 3, Lines 13-30). Feldman further teaches that the metallic structure covers up to 10% of the surface of an upper surface of the substrate (Fig. 16). The Examiner notes that the manner in which the claim is written does not limit which surface of the substrate is an "upper" surface since it is not defined in relationship to anything. For example, any surface can be an upper surface simply by arbitrarily rotating the surface or by arbitrarily defining the direction comprising "upper". Therefore, the upper surface of the substrate can be a surface with no metal structure formed thereon, and hence this upper surface is less than 10% (or "up to 10%") covered since it is 0% covered.
 - b. Regarding claim 2, Feldman further teaches that the metallic structure is incorporated into the substrate, since it has a structural relationship with the substrate.

The manner in which the claim is written does not limit the structural relationship between the metallic structure and substrate since they need only to be “incorporated into” each other.

- c. Regarding claim 3, Feldman further teaches that the metallic structure is greater in thickness than the first electrode (Fig. 2; Col. 3, Lines 13-30).
 - d. Regarding claim 5, Feldman further teaches that the metallic structure can be strips or grids (Fig. 1).
7. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Terao ('581).
- a. Regarding claim 1, Terao teaches an electroluminescent device having a substrate (Element 1), a metallic structure (Element 2b, 2ba, 2bb), and a layer assembly with a first electrode (Element 2), an electroluminescent layer (Element 3, 3r, 3h), and a second electrode (Element 4). The metallic structure is in electrical contact with the first electrode (Figures). The resistance of the metallic structure is lower than the layer resistance of the first electrode (see, for example, Tables 1-6). Terao further teaches that the metallic structure covers less than 10% of an upper surface of the substrate (Col. 10, Lines 6-11 and 52-55). Herein, the upper surface is defined as the surface having an direct physical contact interface between the substrate (Element 1) and the electrode (Element 2, 2b, 2ba, 2bb). For example, the substrate is 16,016 mm² (Col. 10, Lines 7-

8) and the metallic structure is 0.019 mm wide (Col. 10, Lines 54-55). Even if the metallic structure is as long as the longest side of the substrate (143 mm), by geometry the structure still covers less than 10% (or up to 10%) of the upper surface of the substrate.

b. Regarding claim 2, Terao further teaches that the metallic structure is incorporated into the substrate, since it has a structural relationship with the substrate. The manner in which the claim is written does not limit the structural relationship between the metallic structure and substrate since they need only to be “incorporated into” each other.

c. Regarding claim 3, Terao further teaches that the thickness of the metallic structure is greater than the thickness of the first electrode (Figs. 4b, 6b, 9).

d. Regarding claim 5, Terao further teaches that the metallic structure can be strips (see, for example, Fig. 1, 3, 5, 7; Col. 10, Line 56).

8. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Hosokawa ('035).

a. Regarding claim 1, Hosokawa teaches an electroluminescent device having a substrate (Elements 1 and 6 in combination), a metallic structure (Element 5), and a layer assembly with a first electrode (Element 2), an electroluminescent layer (Element 3), and

a second electrode (Element 4). The metallic structure is in electrical contact with the first electrode (Figures). The resistance of the metallic structure is lower than the layer resistance of the first electrode (see, for example, Abstract, Disclosure of Invention Sections). The Examiner notes that the manner in which the claim is written does not limit which surface of the substrate is an “upper” surface since it is not defined in relationship to anything. For example, any surface can be an upper surface simply by arbitrarily rotating the surface or by arbitrarily defining the direction comprising “upper”. Therefore, the upper surface of the substrate can be a surface with no metal structure formed thereon, and hence this upper surface is less than 10% (or “up to 10%”) covered since it is 0% covered.

b. Regarding claim 2, Hosokawa further teaches that the metallic structure is incorporated into the substrate (see, for example, Figs. 1 and 2) since the substrate is formed around the metallic structure. The manner in which the claim is written does not limit the structural relationship between the metallic structure and substrate since they need only to be “incorporated into” each other.

c. Regarding claim 3, Hosokawa further teaches that the metallic structure thickness is greater than the thickness of the first electrode (see, for example, Figs. 1 and 2).

d. Regarding claim 5, Hosokawa further teaches that the metallic structure can be strips (Figs. 2 and 13, for example).

Response to Arguments

4. Applicant's arguments filed 28 February 2007 have been fully considered but they are not persuasive.

5. The Applicant argues that the prior art of Riess, Namiki, Feldman and Hosokawa do not teach a percentage of the upper surface covered by the metallic structures. In response, the Examiner notes that the term "an upper surface" does not limit which surface of the substrate can be defined as the upper surface. For example, any surface can be an upper surface simply by arbitrarily rotating the surface or by arbitrarily defining the direction comprising "upper".

6. The Applicant argues that Namiki, Feldman and Terao do not teach that the that the metallic structure is incorporated into the substrate. In response, the Examiner notes that the term "incorporated into" does not limit the structural relationship between the elements of the metallic structure and the substrate since they have some relationship in space.

7. The Applicant argues that Namiki and Terao does not teach that the metallic film is thicker than the electrode. In response, the Examiner simply refers the Applicant to Figures 6B and 6D of Namiki and Figures 4b, 6b and 9 of Terao, for example, which show that the metallic structure is thicker than the electrode.

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8. The Applicant argues that Riess, Namiki, Feldman, Terao and Hosokawa do not anticipate claim five since they teach strips for the metallic structure. In response, the Examiner notes that strips are one of the configurations of claim 5.

9. The Applicant argues that Terao does not disclose anything regarding the percentage of the substrate covered by the metallic structure. In response, the Examiner notes that Terao teaches that the substrate is 16,016 mm² (Col. 10, Lines 7-8) and the metallic structure is 0.019 mm wide (Col. 10, Lines 54-55). Even if the metallic structure is as long as the longest side of the substrate (143 mm), by geometry the structure still covers less than 10% (or up to 10%) of the upper surface of the substrate. This means that the metallic structure is at most 2.7 mm² in area and 2.7 mm² is less than 10% of 16,016 mm².

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew W. Such whose telephone number is (571) 272-8895. The examiner can normally be reached on Monday - Friday 9AM-5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bradley W. Baumeister can be reached on (571) 272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew W. Such
Examiner
Art Unit 2891



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4/26/07